

**13 April 2009**

**Re: ICEMS urges the U.S. Commerce Department's National Telecommunications Information Administration to first consider health concerns associated with exposure to electromagnetic fields potential prior to implementing a new grants to states program under the Broadband Technology Opportunities Program (BTOP).**

**Dear Sir/Madam**

**I am writing on behalf of the members of the International Commission for Electromagnetic Safety (ICEMS), to urge NTIA program administrators to ensure all due diligence is performed prior to implementing the BTOP Program. The U.S. National Environmental Policy Act should be invoked and a thorough environmental assessment that would evaluate potential impact on man, the natural environment and society as a whole needs to be completed responsibly first. We believe strongly that this assessment needs to be done by applying a precautionary principle framework. While advancing wireless technologies, our Federal government needs to take an overall look at the potential impact of this new program, to ensure that no harm is done.**

On April 2, the European Parliament took a dramatic step forward to passed initiate new more protective policies in its 26 member countries on behalf of 500 million people by enacting a resolution that gives full recognition to the fact that **there are legitimate health concerns related to electrical magnetic fields**. This resolution outlines the necessary steps that ought to be taken to protect man and the environment. It is attached for your information.

The International Commission for Electromagnetic Safety, founded in February, 2003, is composed of concerned international scientists who promote research to protect public health from electromagnetic fields and develop the scientific basis and strategies for assessment, prevention, management and communications of risk, based on the

precautionary principle. The ICEMS scientists share a common understanding, based on their combined research experience in bioelectromagnetics, that biological effects can occur from exposures to both extremely low frequency fields (ELF EMF) and radiofrequency radiation (RFR), and at low intensity exposure levels at every level of investigation from molecular to epidemiological. We agree that until biologically compatible standards are determined, precautionary measures are needed.

We have stated our concerns in the Catania, Benevento and Venice Resolutions, issued in 2002, 2006 and 2008 respectively, and elsewhere and these are attached at the end of this letter. Over sixty (60) scientists and medical doctors who are knowledgeable in this field worldwide have signed these resolutions. We recognize many scientific studies, especially recent epidemiological studies, suggesting that there are adverse health effects from occupational and public exposures to electric, magnetic and electromagnetic fields, or EMF, at exposure conditions which are below the current exposure levels set by many nations. We are particularly concerned that:

- The resources needed to conduct research or a comprehensive, independent and transparent examination of the evidence are grossly inadequate despite the explosive growth of technologies for wireless communications as well as the huge ongoing investment in power transmission.
- As those who are at the forefront of this research, we encourage an ethical approach in setting of exposure standards to protect the health of all, especially those who are more vulnerable, e.g. pregnant women, newborns, children, the elderly, and those who become functionally impaired due to electro- hypersensitivity.
- By extending wireless broadband services in to rural areas, the Federal government may unintentionally be harming people who have moved there to seek a cleaner, low-EMF environment and therefore would have little resources for housing and access to services. The U.S. National Building Institute has issued voluntary guidelines for access to public facilities for persons who suffer from electrical hypersensitivity in the United States. Further, the U.S. Americans for Disabilities Act has been applied in cases where people qualify for disability payments and services as a result of functional impairment due to electrical hypersensitivity. This is a real health condition, recognized by the World Health Organization.

We therefore, ask for your forbearance in implementing this new grants-to-states program until all the facts are in. We request that a open and participatory public discussions of these proposed policies be held that will consider, not only the near term economic and social benefits but the full impact of policies that may end up costing the American taxpayer more over the long term, due to loss of worker productivity, higher rates of disease and increased health care costs. By so doing, you will be responding to a long neglected public health issue, where scientific findings are ignored and exposure standards are not adequately protective of the American people.

We offer to collaborate with the U.S. Government and its cognizant public health agencies to develop and fund a transparent, independent EMF research agenda; and, to develop policy solutions that would continue to encourage technological innovation while protecting human health and the environment from electromagnetic fields.

If you have any questions or concerns please contact us through Elizabeth Kelley, ICEMS Managing Secretariat, at [info@icems.eu](mailto:info@icems.eu) or by calling 520 743-0125 in Tucson Arizona .

Kind regards,

Livio Giuliani

Spokesman  
International Commission for Electromagnetic Safety  
[www.icems.eu](http://www.icems.eu)

Elizabeth Kelley  
Managing Secretariat  
International Commission for Electromagnetic Safety

ICEMS  
c/o Ente Zona Industriale di Porto Marghera  
Via delle Industrie, 19, VEGA1 – Palazzo Lybra  
30175 Venezia-Marghera, ITALIA

ICEMS Managing Secretariat  
U.S. Mail Drop: P.O. Box 85699, Tucson Arizona 85754, USA

- cc.
1. U.S. President Barak Obama
  2. First Lady Michelle Obama
  3. White House Office of Environmental Quality
  4. The Honorable Henry Waxman, Chairman of the Energy and Commerce Committee, U.S. House of Representatives
  5. The Honorable Dennis Kucinich, Chairman of the Domestic Policy Subcommittee, Oversight and Government Reform Committee, U.S. House of Representatives
  6. The Honorable U.S. Senator Arlen Specter

**Attached below:**

ICEMS Resolutions: Venice (2008) Benevento (2006) and Catania (2002),  
The European Parliament Resolution on EMFs, passed April 2, 2009.

**The Venice Resolution  
Initiated by the International Commission for  
Electromagnetic Safety,  
June 6, 2008.**

As stated in the Benevento Resolution of September 2006, we remain concerned about the effects of human exposure to electromagnetic fields on health. At the Venice Workshop, entitled, "Foundations of bioelectromagnetics: towards a new rationale for risk assessment and management," we discussed electro-hypersensitivity, blood brain barrier changes, learning and behavioral effects, changes in anti-oxidant enzyme activities, DNA damage, biochemical mechanisms of interaction, biological damage and, experimental approaches to validate these effects. As an outcome, we are compelled to confirm the existence of non-thermal effects of electromagnetic fields on living matter, which seem to occur at every level of investigation from molecular to epidemiological.

An urgent task before international researchers is to discover the detailed mechanisms of non-thermal interactions between electromagnetic fields and living matter. A collateral consequence will be the design of new general public and occupational protection standards. We, who are at the forefront of this research, encourage an ethical approach in setting of exposure standards that protect the health of all, including those who are more vulnerable. We recognize the need for research to reveal the critical exposure parameters of effect and risk from exposure to electromagnetic fields.

The non-ionizing radiation protection standards recommended by international standards organizations, and supported by the World Health Organization, are inadequate. Existing guidelines are based on results from acute exposure studies and only thermal effects are considered. A world wide application of the Precautionary Principle is required. In addition, new standards should be developed to take various physiological conditions into consideration, e.g., pregnancy, newborns, children, and elderly people.

We take exception to the claim of the wireless communication industry that there is no credible scientific evidence to conclude there a risk. Recent epidemiological evidence is stronger than before, which is a further reason to justify precautions be taken to lower exposure standards in accordance with the Precautionary Principle.

We recognize the growing public health problem known as electro hypersensitivity; that this adverse health condition can be quite disabling; and, that this condition requires further urgent investigation and recognition.

We strongly advise limited use of cell phones, and other similar devices, by young children and teenagers, and we call upon governments to apply the Precautionary Principle as an interim measure while more biologically relevant standards are developed to protect against, not only the absorption of electromagnetic energy by the head, but also adverse effects of the signals on biochemistry, physiology and electrical biorhythms.

\*\*\*\*\*

Contact: Elizabeth Kelley, Managing Secretariat, International Commission for Electromagnetic Safety, [info@icems.eu](mailto:info@icems.eu)

Signed,

**Pasquale Avino**, Italian National Institute for Prevention & Worker Safety,  
Rome, Italy

**Alessandro d'Alessandro**, ICEMS, M.D. Benevento, Italy

**Angelico Bedini**, Italian National Institute for Prevention and Worker Safety,  
Rome, Italy

**Igor Belyaev**, Associate Professor in Toxicological Genetics, Dept. of Genetics,  
Microbiology and Toxicology,  
Stockholm University, Stockholm, Sweden

**Fiorella Belpoggi**, ICEMS, Vice Scientific Director, European Foundation for  
Oncology & Environmental

Sciences "B. Ramazzini". Bologna, Italy

**Carl Blackman**, ICEMS; President, Bioelectromagnetics Society (1990-91),  
Raleigh, NC, USA

**Martin Blank**, Department of Physiology and Cellular Biophysics, Columbia  
University, New York, USA

**Natalia Bobkova**, ICEMS, Institute of Cell Biophysics, Pushchino, Moscow  
Region

**Bill Bruno**, Theoretical biophysics, earned at Department of Physics, University  
of California, Berkeley, USA

**Zhaojin Cao**, National Institute Environmental Health, Chinese Center for  
Disease Control, China

**Simona Carrubba**, PhD, Louisiana State University Health Sciences Center,  
Shreveport, LA, USA.

**Catarina Cinti**, ICEMS, Director, National Research Center, Institute of Clinical  
Physiology, Siena, Italy

**Mauro Cristaldi**, Dip, B.A.U. Università degli Studi "La Sapienza", Roma, Italia

**Suleyman Dasdag**, Biophysics Department of Medical School, Dicle University,  
Diyarbakir, Turkey

**Antonella De Ninno**, ICEMS, Italian National Agency, Energy, Environment &  
Technology, Frascati, Italy

**Emilio Del Giudice**, ICEMS, International Institute of Biophysics, Neuss,  
Germany

**Alvaro de Salles**, ICEMS, Universidade Federal do Rio Grande do Sul, Porto  
Alegre, Brazil

**Sandy Doull**, Consultant, Noel Arnold & Associates, Box Hill VIC, Australia

**Christos Georgiou**, ICEMS, Professor of Biochemistry, Department of Biology.  
University of Patras, Greece

**Reba Goodman**, Prof. Emeritus, Clinical Pathology, Columbia University, New  
York, New York USA

**Settimo Grimaldi**, ICEMS, Inst. Neurobiology & Molecular Medicine, National  
Research, Rome, Italy

**Livio Giuliani**, ICEMS Spokesman; Deputy Director, Nat. Inst. Prevention &  
Worker Safety, East Veneto & South Tirol,  
Camerino University. Italy

**Lennart Hardell**, ICEMS, Department of Oncology, University Hospital, Orebro,  
Sweden

**Magda Havas**, ICEMS, Environmental & Resource Studies, Trent University,  
Ontario, Canada

**Gerard Hyland**, ICEMS, International Institute of Biophysics, Neuss, Germany

**Antonella Lisi**, ICEMS Inst. Neurobiology & Molecular Medicine, National  
Research Council, Rome, Italy

**Louisanna Ieradi**, Istituto per lo Studio degli Ecosistemi C.N.R., Roma, Italia

**Olle Johansson**, Assoc. Prof. The Experimental Dermatology Unit, Department  
of Neuroscience,

Karolinska Institute, Stockholm

**Vini G. Khurana**, Neurosurgeon, Canberra Hospital and Assoc. Prof. of  
Neurosurgery,

Australian National University Medical School

**Henry Lai**, ICEMS, Department of Bioengineering, University of Washington, Seattle, USA

**Lukas Margaritis**, Professor of Cell Biology and Radiobiology, Athens University, Athens, Greece

**Fiorenzo Marinelli**, ICEMS, Institute of Molecular Genetics National Research Council, Bologna Italy.

**Andrew A. Marino**, Professor, Department of Orthopaedic Surgery; Louisiana State University; Shreveport, Louisiana, USA

**Vera Markovic**, Faculty of Electrical Engineering, University of Nis, Serbia

**Ed Maxey**, M.D. retired surgeon, Fayetteville Arkansas

**Gerd Oberfeld**, Public Health Department, Salzburg State Government, Salzburg, Austria and Speaker for

Environmental Medicine for the Austrian Medical Association, Vienna, Austria

**Jerry Phillips**, Director, Science Learning Center, University of Colorado, Colorado Springs, Colo. USA

**Elihu Richter**, ICEMS, Head, Occupational & Environmental Medicine, Hebrew University-Hadassah, Israel

**Leif Salford**, ICEMS, Professor and Chairman, Department of Neurosurgery, Lund University, Sweden

**Massimo Scalia**, Professor, Evolution Models in Applied Sciences, Mathematical Physical and Natural Science,

University of "La Sapienza", Rome, Italy

**Nesrin Seyhan**, ICEMS, Head, Department of Biophysics; Director, Gazi NIRP Center, Ankara, Turkey

**Zamir Shalita**, Consultant on Electromagnetic Hazards, Ramat Gan, Israel

**Morando Soffritti**, ICEMS, Scientific Director, European Foundation for Oncology & Environmental

Sciences, "B. Ramazzini", Bologna, Italy

**Stanley Szmigielski**, ICEMS, Military Institute of Hygiene and Epidemiology, Warsaw, Poland

**Ion Udriou**, Italian National Institute for Prevention & Worker Safety, Rome, Italy

**Clarbruno Verduccio**, Prof. Lt. Col. Commander C.F, Marine Military, La Spezia. Italy

**Mehmet Zeyrek**, Professor of Physics, Middle East Technical University, Ankara, Turkey

**Mikhail Zhadin**, ICEMS, Honorary Scientist of Russian Federation, Institute of Cell Biophysics, Pushchino, Russia

**Stylianios Zinelis**, M.D., ICEMS, Vice President, Hellenic Cancer Society, Cefalonia, Greece

**Anna Zuccherro**, ICEMS, MD, Internal Medicine Department. Venice-Mestre Hospital, Venice, Italy

**Additional signers who are qualified but have not published EMF papers or published prior to 2000.**

**Stéphane Egot-Lemaire**, Temple University, School of Medicine, Center for Biomedical Physics, Pennsylvania USA.

**Andrew Goldsworthy**, Lecturer in Biology (retired), Imperial College London.

**Sarah J. Starkey**, PhD, Neuroscience, University of London, London, United Kingdom.

Disclaimer statement: The signatories to these resolutions, have signed as individuals, giving their professional affiliations, but this does not necessarily mean that this represents the views of their employers or the professional organizations they are affiliated with.

---

## **Benevento Resolution**

**September 19, 2006**

The International Commission for Electromagnetic Safety (ICEMS) held an international conference entitled "The Precautionary EMF Approach: Rationale, Legislation and Implementation", hosted by the City of Benevento, Italy, on February 22, 23 & 24, 2006. The meeting was dedicated to W. Ross Adey, M.D. (1922-2004). The scientists at the conference endorsed and extended the 2002 Catania Resolution and resolved that:

1. More evidence has accumulated suggesting that there are adverse health effects from occupational and public exposures to electric, magnetic and electromagnetic fields, or EMF1, at current exposure levels. What is needed, but not yet realized, is a comprehensive, independent and transparent examination of the evidence pointing to this emerging, potential public health issue.

2. Resources for such an assessment are grossly inadequate despite the explosive growth of technologies for wireless communications as well as the huge ongoing investment in power transmission.

3. There is evidence that present sources of funding bias the analysis and interpretation of research findings towards rejection of evidence of possible public health risks.

4. Arguments that weak (low intensity) EMF cannot affect biological systems do not represent the current spectrum of scientific opinion.

5. Based on our review of the science, biological effects can occur from exposures to both extremely low frequency fields (ELF EMF) and radiation frequency fields (RF EMF). Epidemiological and in vivo as well as in vitro experimental evidence demonstrates that exposure to some ELF EMF can increase cancer risk in children and induce other health problems in both children and adults. Further, there is accumulating epidemiological evidence indicating an increased brain tumor risk from long term use of mobile phones, the first RF EMF that has started to be comprehensively studied. Epidemiological and laboratory studies that show increased risks for cancers and other diseases from occupational exposures to EMF cannot be ignored. Laboratory studies on cancers and other diseases have reported that hypersensitivity to EMF may be due in part to a genetic predisposition.

6. We encourage governments to adopt a framework of guidelines for public and occupational EMF exposure that reflect the Precautionary Principle<sup>2</sup> -- as some nations have already done. Precautionary strategies should be based on design and performance standards and may not necessarily define numerical thresholds because such thresholds may erroneously be interpreted as levels below which no adverse effect can occur. These strategies should include:

6.1. Promote alternatives to wireless communication systems, e.g., use of fiber optics and coaxial cables; design cellular phones that meet safer performance

specifications, including radiating away from the head; preserve existing landline phone networks; place power lines underground in the vicinity of populated areas, only siting them in residential neighborhoods as a last resort;

6.2. Inform the population of the potential risks of cell phone and cordless phone use. Advise consumers to limit wireless calls and use a land line for long conversations.

6.3. Limit cell phone and cordless phone use by young children and teenagers to the lowest possible level and urgently ban telecom companies from marketing to them.

6.4. Require manufacturers to supply hands-free kits (via speaker phones or ear phones), with each cell phone and cordless phone.

6.5. Protect workers from EMF generating equipment, through access restrictions and EMF shielding of both individuals and physical structures.

1 EMF, in this resolution, refers to zero to 300 GHz.

2 The Precautionary Principle states when there are indications of possible adverse effects, though they remain uncertain, the risks from doing nothing may be far greater than the risks of taking action to control these exposures. The Precautionary Principle shifts the burden of proof from those suspecting a risk to those who discount it.

6.6. Plan communications antenna and tower locations to minimize human exposure. Register mobile phone base stations with local planning agencies and use computer mapping technology to inform the public on possible exposures. Proposals for city-wide wireless access systems (e.g. Wi-Fi, WIMAX, broadband over cable or power-line or equivalent technologies) should require public review of potential EMF exposure and, if installed, municipalities should ensure this information is available to all and updated on a timely basis.

6.7. Designate wireless-free zones in cities, in public buildings (schools, hospitals, residential areas) and, on public transit, to permit access by persons who are hypersensitive to EMF.

7. ICEMS3 is willing to assist authorities in the development of an EMF research agenda. ICEMS encourages the development of clinical and epidemiological protocols for investigations of geographical clusters of persons with reported allergic reactions and other diseases or sensitivities to EMF, and document the effectiveness of preventive interventions. ICEMS encourages scientific collaboration and reviews of research findings.

We, the undersigned scientists, agree to assist in the promotion of EMF research and the development of strategies to protect public health through the wise application of the precautionary principle.

Signed:

**Fiorella Belpoggi**, European Foundation for Oncology & Environmental Sciences, B.Ramazzini, Bologna, Italy

**Carl F. Blackman**, President, Bioelectromagnetics Society (1990-91), Raleigh, NC, USA

**Martin Blank**, Department of Physiology, Columbia University, New York, USA



**Natalia Bobkova**, Institute of Cell Biophysics, Pushchino, Moscow Region  
**Francesco Boella**, National Inst. Prevention & Worker Safety, Venice, Italy  
**Zhaojin Cao**, National Institute Environmental Health, Chinese Center for Disease Control, China  
**Sandro D'Allessandro**, Physician, Mayor of Benevento, Italy, (2001-2006)  
**Enrico D'Emilia**, National Institute for Prevention and Worker Safety, Monteporzio, Italy  
**Emilio Del Giudice**, National Institute for Nuclear Physics, Milan, Italy  
**Antonella De Ninno**, Italian National Agency For Energy, Environment & Technology, Frascati, Italy  
**Alvaro A. De Sallas**, Universidade Federal do Rio Grande do Sul, Porto Alegre, Brazil  
**Livio Giuliani**, East Veneto&South Triol, National Inst. Prevention & Worker Safety, Camerino University  
**Yury Grigoryev**, Institute of Biophysics; Chairman, Russian National Committee NIERP  
**Settimo Grimaldi**, Inst. Neurobiology & Molecular Medicine, National Research, Rome, Italy  
**Lennart Hardell**, Department of Oncology, University Hospital, Orebro, Sweden  
**Magda Havas**, Environmental & Resource Studies, Trent University, Ontario, Canada  
**Gerard Hyland**, Warwick University, UK; International Inst. Biophysics, Germany; EM Radiation Trust, UK  
**Olle Johansson**, Experimental Dermatology Unit, Neuroscience Department, Karolinska Institute, Sweden  
**Henry C. Lai**, Department of Bioengineering, University of Washington, Seattle, USA  
**Mario Ledda**, Inst. Neurobiology & Molecular Medicine, National Council for Research, Rome, Italy  
**Yi-Ping Lin**, Center of Health Risk Assessment & Policy, National Taiwan University, Taiwan  
**Antonella Lisi**, Inst. Neurobiology & Molecular Medicine, National Research Council, Rome, Italy  
**Fiorenzo Marinelli**, Institute of Immunocytology, National Research Council, Bologna, Italy  
**Elihu Richter**, Head, Occupational & Environmental Medicine, Hebrew University-Hadassah, Israel  
**Emanuela Rosola**, Inst. Neurobiology & Molecular Medicine, National Research Council, Rome, Italy  
**Leif Salford**, Chairman, Department of Neurosurgery, Lund University, Sweden  
**Nesrin Seyhan**, Head, Department of Biophysics; Director, Gazi NIRP Center, Ankara, Turkey  
**Morando Soffritti**, Scientific Director, European Foundation for Oncology & Environmental Sciences, B. Ramazzini, Bologna, Italy  
**Stanislaw Szmigielski**, Military Institute of Hygiene and Epidemiology, Warsaw, Poland  
**Mikhail Zhadin**, Institute of Cell Biophysics, Pushchino, Moscow Region.

Date of Release: September 19, 2006. For more information, contact Elizabeth Kelley, Managing Secretariat, International Commission For Electromagnetic Safety (ICEMS), Montepulciano, Italy.  
 Email: [info@icems.eu](mailto:info@icems.eu) Website: [www.icems.eu](http://www.icems.eu)  
 3 International Commission For Electromagnetic Safety. For information, link to [www.icems.eu](http://www.icems.eu).

**Additional signers to the Benevento Resolution:**

**Igor Y. Belyaev**, Dept. Genetics, Microbiology and Toxicology, Arrhenius Laboratories for Natural

Sciences, Stockholm University, Stockholm, Sweden

**William J. Bruno**, Ph.D., Theoretical Biophysics, awarded by Department of Physics, University of

California at Berkeley, USA

**Mauro Cristaldi**, Dip. B.A.U. Università degli Studi "La Sapienza", Roma, Italia

**Suleyman Dasdag**, Biophysics Department of Medical School, Dicle University, Diyarbakir, Turkey

**Sandy Doull**, Consultant, Noel Arnold & Associates, Box Hill VIC, Australia

**Christos D. Georgiou**, Assoc. Professor of Biochemistry, Department of Biology, University of Patras, Greece

**Reba Goodman**, Prof. Emeritus, Clinical Pathology, Columbia University, New York, New York USA

**Luisa Anna Ieradi**, Istituto per lo Studio degli Ecosistemi C.N.R., Roma, Italia

**Michael Kundi**, Head, Institute Environmental Health, Medical University of Vienna, Austria

**Angelo Gino Lewis**, Professor Emeritus, Environmental Oncology, Padua University, Italy

**Lukas H. Margaritis**, Professor of Cell Biology and Radiobiology, Athens University, Athens, Greece

**Vera Markovic**, Faculty of Electrical Engineering, University of Nis, Serbia

**Gerd Oberfeld**, Federal Salzburg Government. National Medical Management, Public Health Hygiene

and Environmental Health, Salzburg, Austria

**Jerry L. Phillips**, Professor, University of Colorado, Colorado Springs

**Zamir Shalita**, Consultant on Electromagnetic Hazards, Ramat Gan, Israel

**E. Stanton Maxey**, M.D. retired surgeon, Fayetteville Arkansas

**Ion Udriou**, Dip. B.A.U., Università degli Studi "La Sapienza", Roma, Italia

**Mehmet Zeyrek**, Prof., Physics Department, Middle East Technical University, Ankara, Turkey

**Stelios A Zinelis** M.D., Vice President, Hellenic Cancer Society, Cefallonia, Greece

**Anna Zuccherò**, MD, Internal Medicine Department. Venice-Mestre Hospital, Venice, Italy

Additional signers who are qualified but have not published EMF papers or published prior to 2000:

**Andrew Goldsworthy**, Lecturer in Biology (retired), Imperial College London.

**Sarah J. Starkey**, PhD, Neuroscience, University of London, London, United Kingdom

---

## **CATANIA RESOLUTION**

**September 2002**

**The Scientists at the International Conference “State of the Research on Electromagnetic Fields – Scientific and Legal Issues”,**

**organized by ISPEL\*, the University of Vienna and the City of Catania,  
held in Catania (Italy) on September 13th – 14th, 2002, agree to the following:**

1. Epidemiological and in vivo and in vitro experimental evidence demonstrates the existence of electromagnetic field (EMF) induced effects, some of which can be adverse to health.
2. We take exception to arguments suggesting that weak (low intensity) EMF cannot interact with tissue.
3. There are plausible mechanistic explanations for EMF-induced effects which occur below present ICNIRP and IEEE guidelines and exposure recommendations by the EU.
4. The weight of evidence calls for preventive strategies based on the precautionary principle. At times the precautionary principle may involve prudent avoidance and prudent use.
5. We are aware that there are gaps in knowledge on biological and physical effects, and health risks related to EMF, which require additional independent research.
6. The undersigned scientists agree to establish an international scientific commission to promote research for the protection of public health from EMF and to develop the scientific basis and strategies for assessment, prevention, management and communication of risk, based on the precautionary principle.

**Fiorella Belpoggi**, Fondazione Ramazzini, Bologna, Italy

**Carl F. Blackman**, President of the Bioelectromagnetics Society (1990-1991), Raleigh, USA

**Martin Blank**, Department of Physiology, Columbia University, New York, USA

**Emilio Del Giudice**, Istituto Nazionale di Fisica Nucleare, Milano, Italy

**Livio Giuliani**, Camerino University - ISPEL\*\*, Venezia, Italy

**Settimio Grimaldi**, CNR-Istituto di Neurobiologia e Medicina Molecolare, Roma, Italy

**Lennart Hardell**, Department of Oncology, University Hospital, Örebro, Sweden

**Michael Kundi**, Institute of Environmental Health, University of Vienna, Austria

**Henry Lai**, Department of Bioengineering, University of Washington, USA

**Abraham R. Liboff**, Department of Physics, Oakland University, USA

**Wolfgang Löscher**, Department of Pharmacology, Toxicology and Pharmacy, School of Veterinary Medicine, Hannover, Germany

**Kjell Hansson Mild**, President of the Bioelectromagnetics Society (1996-1997), National Institute of Working Life, Umeå, Sweden

**Wilhelm Mosgöller**, Institute for Cancer Research, University of Vienna, Austria

**Elihu D. Richter**, Head, Unit of Occupational and Environmental Medicine, School of Public Health, Hebrew University-Hadassah, Jerusalem, Israel.

**Umberto Scapagnini**, Neuropharmacology, University of Catania, Italy, Member of the Research Comm. of the European Parliament

**Stanislaw Szmigielski**, Military Institute of Hygiene and Epidemiology, Warsaw, Poland  
Istituto Superiore per la Prevenzione e la Sicurezza del Lavoro, Italy

\*\* National Institute for Prevention and Work Safety, Italy

---


<http://www.europarl.europa.eu/sides/getDoc.do?pubRef=-//EP//TEXT+TA+P6-TA-2009-0216+0+DOC+XML+V0//EN>


Procedure : [2008/2211\(INI\)](#)


[Document stages in plenary](#)

Document selected : A6-0089/2009

Texts tabled :  
[A6-0089/2009](#)

Debates :  
 [PV 01/04/2009 - 23](#)

Votes :  
 [PV 02/04/2009 - 9.24](#)

Texts adopted :  
 [P6\\_TA\(2009\)0216](#)

Texts adopted

Thursday, 2 April 2009 - Brussels

Provisional edition

Health concerns associated with  
electromagnetic fields

P6\_TA-PROV(2009)0216 [A6-0089/2009](#)

➤ **European Parliament resolution of 2 April 2009 on health concerns associated with electromagnetic fields ([2008/2211\(INI\)](#))**

The European Parliament ,

- having regard to Articles 137, 152, and 174 of the EC Treaty, seeking to promote a high level of human health, environmental protection and workers' health and safety protection,
- having regard to Council Recommendation 1999/519/EC of 12 July 1999 on the limitation of exposure of the general public to electromagnetic fields (0 Hz to 300 GHz)([1](#)) and the related Commission implementation report of 1 September 2008 on the implementation of that recommendation ([COM\(2008\)0532](#)),
- having regard to Directive 2004/40/EC of the European Parliament and of the Council of 29 April 2004 on the minimum health and safety requirements regarding exposure of workers to the risks arising from physical agents (electromagnetic fields)([2](#)) ,
- having regard to Directive 1999/5/EC of the European Parliament and of the Council of 9 March 1999 on radio equipment and telecommunications terminal equipment and the mutual recognition of their conformity([3](#)) and to the respective harmonised safety standards for mobile phones and base stations,
- having regard to Directive 2006/95/EC of the European Parliament and of the Council of 12 December 2006 on the harmonisation of the laws of Member States relating to electrical equipment designed for use within certain voltage limits([4](#)) ,
- having regard to its resolution of 4 September 2008 on the mid-term review of the European Environment and Health Action Plan 2004-2010([5](#)) ,
- having regard to its resolution of 10 March 1999 on the proposal for a Council Recommendation on the limitation of exposure of the general public to electromagnetic fields 0 Hz – 300 GHz([6](#)) ,
- having regard to Rule 45 of its Rules of Procedure,
- having regard to the report of the Committee on the Environment, Public Health and Food Safety ([A6-0089/2009](#)),

A. whereas electromagnetic fields (EMFs) exist in nature and have consequently always been present on earth; whereas, however, in recent decades, environmental exposure to man-made sources of EMFs has risen constantly, driven by demand for electricity, increasingly more specialised wireless technologies, and changes in the organisation of society; whereas the end effect is that every individual is now being exposed to a complex mixture of electric and magnetic fields of different frequencies, both at home and at work,

B. whereas wireless technology (mobile phones, Wi-Fi/WiMAX, Bluetooth, DECT landline telephones) emits EMFs that may have adverse effects on human health,

- C. whereas most European citizens, especially young people aged from 10 to 20, use a mobile phone, an object serving a practical purpose and as a fashion accessory, and whereas there are continuing uncertainties about the possible health risks, particularly to young people whose brains are still developing,
- D. whereas the dispute within the scientific community regarding the potential health risks arising from EMFs has intensified since 12 July 1999, when exposure limits for fields in the 0 Hz to 300 GHz range were laid down in Recommendation 1999/519/EC,
- E. whereas the fact that the scientific community has reached no definite conclusions has not prevented some national or regional governments, in China, Switzerland, and Russia, as well as in at least nine EU Member States, from setting what are termed "preventive" exposure limits, that is to say, lower than those advocated by the Commission and its independent scientific committee, the Scientific Committee on Emerging and Newly Identified Health Risks(7) ,
- F. whereas actions to limit the exposure of the general public to EMFs should be balanced against improvements to quality of life, in terms of safety and security, brought about by devices transmitting EMFs,
- G. whereas among the scientific projects arousing both interest and controversy is the Interphone epidemiological study, financed by an EU contribution of EUR 3 800 000, primarily under the Fifth RTD Framework Programme(8) , the findings of which have been awaited since 2006,
- H. whereas, however, there are some points that appear to be the subject of general agreement, in particular the idea that reactions to microwave exposure vary from one person to another, the need, as a matter of priority, to conduct exposure tests under actual conditions in order to assess the non-thermal effects associated with radio-frequency (RF) fields, and the fact that children exposed to EMFs are especially vulnerable(9) ,
- I. whereas the EU has laid down exposure limits to protect workers from the effects of EMFs; whereas on the basis of the precautionary principle such measures should also be taken for the sections of population concerned, such as residents and consumers,
- J. whereas the Special Eurobarometer report on Electromagnetic Fields (No 272a of June 2007) indicates that the majority of citizens do not feel that the public authorities inform them adequately on measures to protect them from EMFs,
- K. whereas it is necessary to continue investigations into intermediate and very low frequencies so that conclusions can be drawn as to their effects on health,
- L. whereas the use of Magnetic Resonance Imaging (MRI) must not be threatened by Directive 2004/40/EC as MRI technology is at the cutting edge of research, diagnosis and treatment of life-threatening diseases for patients in Europe,
- M. whereas the MRI safety standard IEC/EN 60601-2-33 establishes limit values for EMFs which have been set so that any danger to patients and workers is excluded.
1. Urges the Commission to review the scientific basis and adequacy of the EMF limits as laid down in Recommendation 1999/519/EC and report to the Parliament; calls for the review to be undertaken by the Scientific Committee on Emerging and Newly Identified Health Risks;
  2. Calls for particular consideration of biological effects when assessing the potential health impact of electromagnetic radiation, especially given that some studies have found the most harmful effects at lowest levels; calls for active research to address potential health problems by developing solutions that negate or reduce the pulsating and amplitude

modulation of the frequencies used for transmission;

3. Maintains that as well as, or as an alternative to, amending European EMFs limits, the Commission, working in coordination with experts from Member States and the industries concerned (electricity companies, telephone operators and manufacturers of electrical appliances including mobile phones), should draw up a guide to available technology options serving to reduce exposure to EMFs;

4. Notes that industry stakeholders as well as relevant infrastructure managers and competent authorities can already influence certain factors, for example setting provisions with regards to the distance between a given site and the transmitters, the height of the site in relation to the height of the base station, or the direction of a transmitting antenna in relation to living environments, and, indeed, should obviously do so in order to reassure, and afford better protection to, the people living close to such facilities; calls for optimal placement of masts and transmitters and further calls for the sharing of masts and transmitters placed in this way by providers so as to limit the proliferation of poorly positioned masts and transmitters; calls on the Commission and Member States to draw up appropriate guidance;

5. Invites the Member States and local and regional authorities to create a one-stop shop for authorisation to install antennas and repeaters, and to include among their urban development plans a regional antenna plan

6. Urges the authorities responsible for authorising the siting of mobile telephony antennas to reach agreement, jointly with the operators in that sector, on the sharing of infrastructure, in order to reduce the volume thereof and the exposure of the public to EMFs;

7. Acknowledges the efforts of mobile communications and other EMF-transmitting wireless technologies to avoid damaging the environment, and in particular to address climate change;

8. Considers that, given the increasing numbers of legal actions and measures by public authorities having the effect of a moratorium on the installation of new EMF-transmitting equipment, it is in the general interest to encourage solutions based on negotiations involving industry stakeholders, public authorities, military authorities and residents' associations to determine the criteria for setting up new GSM antennas or high-voltage power lines, and to ensure at least that schools, crèches, retirement homes, and health care institutions are kept clear, within a specific distance determined by scientific criteria, of facilities of this type;

9. Calls on the Member States to make available to the public, jointly with the operators in the sector, maps showing exposure to high-voltage power lines, radio frequencies and microwaves, and especially those generated by telecommunications masts, radio repeaters and telephone antennas. Calls for that information to be displayed on an internet page so that it can easily be consulted by the public, and for it to be disseminated in the media;

10. Proposes that the Commission consider the possibility of using funding from the Trans-European Energy Networks to investigate the effects of EMFs at very low frequencies, and particularly in electrical power lines,

11. Calls on the Commission, during the 2009-2014 parliamentary term, to launch an ambitious programme to gauge the electromagnetic compatibility between waves created artificially and those emitted naturally by the human body with a view to determining whether microwaves might ultimately have undesirable consequences for human health;

12. Calls on the Commission to present a yearly report on the level of electromagnetic

radiation in the EU, its sources, and actions taken in the EU to better protect human health and the environment;

13. Calls on the Commission to find a solution enabling Directive 2004/40/EC to be implemented more rapidly and thus ensure that workers are properly protected against EMFs, just as they are already protected under two other Community acts against noise<sup>(10)</sup> and vibration<sup>(11)</sup> and to introduce a derogation for MRI under Article 1 of that Directive.

14. Deplores the fact that, as a result of repeated postponements since 2006, the findings of the Interphone study have yet to be published, the purpose of this international epidemiological study being to establish whether there is a link between use of mobile phones and certain types of cancer, including brain, auditory nerve, and parotid gland tumours;

15. Draws attention in this context to the appeal for caution from the coordinator of the Interphone study, Elisabeth Cardis, who, in the light of existing knowledge, recommends, as far as children are concerned, that mobile phones should not be used beyond reasonable limits and that landlines should be preferred;

16. Believes in any event that it is up to the Commission, which has an important contribution to the financing of this global study, to ask those in charge of the project why no definitive findings have been published and, should it receive an answer, to inform Parliament and the Member States without delay;

17. Also suggests to the Commission, to make for efficiency in policy and budget terms, that the Community funding earmarked for studies on EMFs be partly switched to finance a wide-ranging awareness campaign to familiarise young Europeans with good mobile phone techniques, such as the use of hands-free kits, keeping calls short, switching off phones when not in use (such as when in classes) and using phones in areas that have good reception;

18. Considers that such awareness-raising campaigns should also familiarise young Europeans with the health risks associated with household devices and the importance of switching off devices rather than leaving them on stand-by;

19. Calls on the Commission and Member States to increase research and development funding for the evaluation of potential long-term adverse effects of mobile telephony radio frequencies; calls also for an increase in public calls for proposals for investigation of the harmful effects of multiple exposure to different sources of EMFs, particularly where children are concerned;

20. Proposes that the European Group on Ethics in Science and New Technologies be given the additional task of assessing scientific integrity in order to help the Commission forestall possible cases of risk, conflict of interests, or even fraud that might arise now that competition for researchers has become keener;

21. Calls on the Commission, in recognition of the public concern in many Member States, to work with all relevant stakeholders, such as national experts, non-governmental organisations and industrial sectors, to improve the availability of, and access to, up-to-date information understandable to non-specialists on wireless technology and protection standards;

22. Calls on the International Commission on Non-Ionising Radiation Protection and the World Health Organisation (WHO) to be more transparent and open to dialogue with all stakeholders in standard setting;

23. Condemns certain particularly aggressive marketing campaigns by telephone operators



in the run-up to Christmas and other special occasions, including for example the sale of mobile phones designed solely for children or free call time packages aimed at teenagers;

24. Proposes that the EU's indoor air quality policy should encompass the study of "wireless" domestic appliances, which, like Wi-Fi for Internet access and digital enhanced cordless telecommunications (DECT) telephones, have been widely adopted in recent years in public places and in the home, with the result that citizens are being continuously exposed to microwave emissions;

25. Calls, given its constant concern to improve consumer information, for the technical standards of the European Committee for Electrotechnical Standardisation to be amended with a view to imposing labelling requirements whereby the transmitting power would have to be specified and every wireless-operated device accompanied by an indication that it emitted microwaves;

26. Calls on the Council and Commission, in coordination with the Member States and the Committee of the Regions, to encourage the introduction of a single standard designed to ensure that local residents are subjected to as low a degree of exposure as possible when high-voltage grids are extended;

27. Is greatly concerned about the fact that insurance companies are tending to exclude coverage for the risks associated with EMFs from the scope of liability insurance policies, the implication clearly being that European insurers are already enforcing their version of the precautionary principle;

28. Calls on Member States to follow the example of Sweden and to recognise persons that suffer from electrohypersensitivity as being disabled so as to grant them adequate protection as well as equal opportunities;

29. Instructs its President to forward this resolution to the Council, the Commission, the governments and parliaments of the Member States, the Committee of the Regions, and the WHO.

(1) OJ L 199, 30.7.1999, p. 59.

(2) OJ L 159, 30.4.2004, p. 1.

(3) OJ L 91, 7.4.1999, p. 10.

(4) OJ L 374, 27.12.2006, p. 10.

(5) Texts adopted, [P6\\_TA\(2008\)0410](#).

(6) OJ C 175, 21.6.1999, p. 129.

(7) Opinion of 21 March 2007 adopted at the 16th plenary meeting of the Committee.

(8) Quality of life programme, contract No QLK4-1999-01563.

(9) March 2001 STOA study on "The physiological and environmental effects of non-ionising EMR", PE297.574.

(10) Directive 2003/10/EC of the European Parliament and of the Council of 6 February 2003 on the minimum health and safety requirements regarding the exposure of workers to the risks arising from physical agents (noise) (OJ L 42, 15.2.2003, p. 38).

(11) Directive 2002/44/EC of the European Parliament and of the Council of 25 June 2002 on the minimum health and safety requirements regarding the exposure of workers to the risks arising from physical agents (vibration) (OJ L 177, 6.7.2002, p. 13).